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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,476	12/19/2001	Jun Li	14214RR (NORTH 2286000)	2477
7590	06/29/2005		EXAMINER	
Gregory W. Carr CARR & STORM, L.L.P. 670 Founders Square 900 Jackson Street Dallas, TX 75202			YANG, LINA	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/028,476	<b>Applicant(s)</b> LI ET AL.	
	<b>Examiner</b> Lina Yang	<b>Art Unit</b> 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 10 and 19 recite a parameter **F**. However, it is not clear what the parameter is referring to.

Claims 3, 12 and 21 recite "the number of active users in the system is the optimal number of active users in the system". However, it is not clear what "optimal number" covers.

Regarding claims 6, 15 and 24, the phrase "may be" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-12, 15-21 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Chen et al. (U. S. Patent Application No. 20020105929 A1) in view of Kenney et al. (U. S. Patent Application No. 20030021236 A1).

Regarding claims 1, 10 and 19, as it is understood in view of above 112 problem, Chen discloses a method for allocating orthogonal codes to users of mobile stations in a telecommunication system, the method comprising: allocating sufficient orthogonal codes to service the effective number of users (fig. 7, [0110]); and transmitting for reception by at least one mobile station at least one message indicating the number of allocated orthogonal codes ([0017]).

Chen differs from the claimed invention in that Chen does not specifically disclose that determining an effective number of mobile station users equal to the product of a number of active users in the system and a value relating to F. However, Kenney discloses that determining an effective number of mobile station users equal to the product of a number of active users in the system and a value relating to F ([0042], assuming F=1). Therefore, it would have been obvious for one of ordinary skill in the art

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at the time when the invention was made to include determining an effective number of mobile station users equal to the product of a number of active users in the system and a value relating to  $F$  as taught by Kenney et al. in the assembly of Chen in order to allocate orthogonal codes to each user.

Regarding claims 2, 11 and 20, Kenney discloses that determining an effective number of mobile station users equal to the product of a number of active users in the system and a value relating to  $F$  ([0042], assuming  $F=1$ ).

Regarding claims 3, 12 and 21, Kenney further discloses the number of active users in the system is the optimal number of active users in the system.

Regarding claims 6, 15, 24, Chen further discloses that setting a variable  $N$  equal to at least 1; determining the number of users that may be supported by  $N$  channels; determining whether the number of users that may be supported by  $N$  channels is greater than the effective number of users; upon a determination that the number of users that may be supported by  $N$  channels is not greater than the effective number of users, incrementing  $N$  by 1, and returning to the step of determining the number of users that may be supported by  $N$  channels; and upon a determination that the number of users that may be supported by  $N$  channels is greater than the effective number of users, allocating  $N$  channels for orthogonal codes (fig. 7, [0110]).

Regarding claims 7, 16 and 25, Chen further discloses that orthogonal codes are Walsh codes ([0086]).

Regarding claims 8, 17 and 26, Chen further discloses that the system comprises at least a sector of a cell (fig. 1A; [0059]).

Regarding Claims 9, 18 and 27, Chen further discloses that the method for allocating orthogonal codes to users of mobile stations in a telecommunication system applied to UMTS ([0003], "GSM"; UMTS is built on GSM).

3. Claims 4-5, 13-14 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Chen et al. (U. S. Patent Application No. 20020105929 A1) in view of Hulyalkar et al. (U. S. Patent No. 5787080).

Regarding claims 4-5, 13-14 and 22-23, Chen differs from the claimed invention in that Chen does not specifically disclose that determining an optimal number of active users in the system with reference to at least one of: the number of users requesting service; the throughput required of the system; and the type of service requested. However, it is well known in the art that a user requesting service is considered an active user, for example, Hulyalkar discloses that determining an optimal number of active users in the system from the number of users requesting service (col. 8 lines 11-13, claim 6). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to include determining an optimal number of

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active users in the system from the number of users requesting service as taught by Hulyalkar et al. in the assembly of Chen in order to allocate orthogonal codes to each user.

4. Claims 1, 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Deane et al. (U. S. Patent No. 6,278,702 B1) in view of Kenney et al. (U. S. Patent Application No. 20030021236 A1).

Regarding claims 1, 10 and 19, as it is understood in view of above 112 problem, Deane discloses a method for allocating orthogonal codes to users of mobile stations in a telecommunication system, the method comprising: allocating sufficient orthogonal codes to service the effective number of users (fig. 1; col. 5 lines 27-29); and transmitting for reception by at least one mobile station at least one message indicating the number of allocated orthogonal codes (antenna 111 in fig. 1; col. 5 lines 37-50).

Deane differs from the claimed invention in that Deane does not specifically disclose that determining an effective number of mobile station users equal to the product of a number of active users in the system and a value relating to  $F$ . However, Kenney discloses that determining an effective number of mobile station users equal to the product of a number of active users in the system and a value relating to  $F$  ([0042], assuming  $F=1$ ). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to include determining an effective number of mobile station users equal to the product of a number of active users in the system and

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a value relating to F as taught by Kenney et al. in the assembly of Deane in order to allocate orthogonal codes to each user.

**Conclusion**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lina Yang whose telephone number is (571)272-3151.

The examiner can normally be reached on 7:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LY



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